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10/787,507

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Jeffrey R. Bury

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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JEFFREY R. BURY,
Thomas M. Vickers Jr., and Bruce J. Christensen

Appeal 2010-006868
Application 10/787,507
Technology Center 1700

Before CHUNG K. PAK, LINDA M. GAUDETTE, and MARK NAGUMO,
Administrative Patent Judges.

NAGUMO, *Administrative Patent Judge.*

DECISION ON APPEAL

A. Introduction¹

Jeffrey R. Bury, Thomas M. Vickers Jr., and Bruce J. Christensen (“Bury”) timely appeal under 35 U.S.C. § 134(a) from the final rejection² of claims 1, 3, 5-9, 12-17, 19-23, and 26-32, which are all of the pending claims. We have jurisdiction. 35 U.S.C. § 6. We REVERSE.

The subject matter on appeal relates to additives for cement compositions that are said to provide high compressive strength without negatively affecting (i.e., greatly increasing) setting times. The claimed admixture composition comprises three types of materials. The first component is polycarboxylate dispersants, which the 507 Specification defines at page 4, l. 25, through page 5, l. 3; examples are provided through page 19. These dispersants are used to reduce the amount of water required to obtain a flowable and workable cement mixture. They are said to increase fluidity by attaching to grains of cement and producing electrostatic repulsion and steric hindrance between the grains, but they also increase the setting time for the cement mixture. (Spec. 2, 2d and 3d full paras.) The second material is set retarders, which are described at page 19, l. 26, through page 20, l. 16. The third material, strength improving additives, are described at page 20 through page 23, line 1.

¹ Application 10/787,507, *Strength Improvement Admixture*, filed 26 February 2004, claiming the benefit of a provisional application filed 26 February 2003. The specification is referred to as the “507 Specification,” and is cited as “Spec.” The real party in interest is listed as Construction Research & Technology GmbH. (Appeal Brief, filed 4 May 2009 (“Br.”), 3.)

² Office action mailed 7 October 2008.

Representative Claim 1 reads:

1. A strength improvement admixture composition comprising:
 - a. polycarboxylate dispersant;
 - b. set retarder; and
 - c. a strength improvement additive selected from the group consisting of
 - poly(hydroxyalkylated)polyethyleneamines,
 - poly(hydroxyalkylated)polyethylenepolyamines,
 - poly(hydroxyalkylated)polyethyleneimines,
 - poly(hydroxyalkylated)polyamines, hydrazines,
 - 1,2-diaminopropane, polyglycoldiamine,
 - poly(hydroxyalkyl)amines and mixtures thereof;wherein the amount of polycarboxylate dispersant is from about 5% to about 80%,
the set retarder is from about 0.5% to about 40%, and
the strength improvement additive is from about 0.5% to about 40% based on the total dry weight of the admixture composition components.

(Claims App., Br. 16; indentation, paragraphing, and emphasis added.)

The Examiner maintains the following grounds of rejection:³

- A. Claims 1, 3, 5-9, 12-17, 19-23, and 26-32 stand rejected under 35 U.S.C. § 102(e) in view of Anderson.⁴

³ Examiner's Answer mailed 17 November 2009 ("Ans.").

⁴ James Edward Anderson et al., *High Early-Strength Cementitious Composition*, U.S. Patent Application Publication 2003/0127026 A1 (2003) (issued as U.S. Patent 6,858,074 B2 (22 February 2005), assigned to Construction Research & Technology GmbH, the real party in interest in this appeal).

B. Discussion

Findings of fact throughout this Opinion are supported by a preponderance of the evidence of record.

The Examiner argues that Anderson describes, in Table A, mixtures containing relative amounts of a polycarboxylate dispersant, an accelerator, and a retarder, that, combined with Anderson's descriptions of the components, meet the limitations required the appealed claims.

Table A is reproduced below:

TABLE A				
Admixture Type	Approximate Solids Content, %	General Dosage Range oz/cwt	Preferred Dosage Range, oz/cwt	Primary Active Ingredient Wt. by Cement Wt., %
dispersant	20-30	2-35	7-20	0.027-0.68
accelerator	30-50	5-120	60-100	0.018-2.03
retarder	10-20	0.25-8	0.75-3.0	0.002-0.053

oz/cwt = fluid ounces per 100 pounds of cement

{Table A shows composition ranges of early strength compositions}

Bury argues that the Examiner's reliance on Anderson provides insufficient evidence of anticipation of the claimed strength improvement admixture composition. More particularly, Bury argues that "Table A simply provides dosage ranges for the separate admixture products that may be used across a wide variety of end applications." (Br. 11.) The particular early strength compositions with which Anderson is concerned are defined, according to Bury, in paragraph [0156] (two paragraphs from Table A), as having about 5 to 12% dispersant, more than 0% to about 2% retardant, and about 85% to about 95% accelerator. (Br. 11 and 13-14.) Bury relies on the

testimony⁵ of Joseph A. Daczko, who is listed as an inventor of the Anderson patent, in support of this point. Moreover, Bury argues, the “Approximate Solids Content” (second column of Table A) refers not to the solids content of the overall admixture, but to the solids content of each individual, commercially available, component. (Br. 12.)

The Examiner responds that “[t]he broader teach [sic] of ranges, 1.6% to 87% for the dispersant (polycarboxylate polymers), 12% to 98% of the strength improving accelerator (polyhydroxylamine) and 0.2 to 53% of set retarders, based on the percent total of the three admixture components, . . . are consistent with appellant’s claimed ranges of about 0.5-80%, about 0.5-40%, and about 0.5-40%, respectively, and thus still meets the claims.” (Ans. 6.)

Long ago, our reviewing court explained that, for an anticipation rejection to be proper, the reference “must clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.” *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972). “Such picking and choosing may be entirely proper in the making of a 103, obviousness rejection, where the applicant must be afforded an opportunity to rebut with objective evidence any inference of obviousness which may arise from the *similarity* of the subject matter which he claims to the prior art,” the court

⁵ Declaration of Joseph A. Daczko, 22 September 2008, attached in the Evidence Appendix to the Brief.

continued, “but it has no place in the making of a 102, anticipation rejection.” (*Id.* at 587-88.)

Here, not only would the artisan have had to select among a great many different accelerators to happen upon an accelerator that Bury characterizes as a strength improvement additive, but the artisan would also have had to explore various combinations of relative amounts of the three critical components with no apparent guidance from Anderson that might direct the search in the direction of the compositions covered by the appealed claims.

According to the Examiner, the range of each component, as disclosed by Anderson, is broader than the corresponding range recited in the appealed claims. As the Federal Circuit has explained recently, a prior art range which overlaps, but is not wholly included within, a claimed range generally does not anticipate the claimed range. *See, e.g., Atofina v. Great Lakes Chemical Corp.*, 441 F.3d 991, 999 (Fed. Cir. 2006) (explaining that an earlier species anticipates a later genus, but not vice-versa, especially when there is a considerable difference between the breadth of the range in the appealed claims and that disclosed by the prior art).

C. Order

We REVERSE the rejection of claims 1, 3, 5-9, 12-17, 19-23, and 26-32 under 35 U.S.C. § 102(e) in view of Anderson.

REVERSED

Appeal 2010-006868
Application 10/787,507

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